

INDUSTRY & INCLUSION

MANUFACTURING

WORKFORCE

STRATEGIES

BUILDING AN

INCLUSIVE FUTURE

How community-embedded
workforce organizations center
racial equity, credentialing,
and training to create stronger
neighborhoods

June 2021





TABLE OF CONTENTS

Introduction // 4

Overview // 4

How to use this research // 6

Summary of Methodology // 8

How the project was done // 8

Reflections // 10

JARC Profile // 12

Introduction // 12

Jane Addams Resource Corporation // 13

Technical Description // 14

Personal Profiles // 20

Adonis Summerville	Senior Manufacturing Instructor, JARC	20
Anna Hawkins	Trainee, JARC	22
Lina Cesadero	Trainee, JARC	24
Teaera Strum	COO, Strum Contracting	25

About the Organizers & Acknowledgements // 27

Appendices // 28

INTRODUCTION

Overview

In 2020, The Century Foundation (TCF) and the Urban Manufacturing Alliance (UMA) collaborated to create a national program to examine educational strategies and community-driven workforce models that connect diverse communities to opportunities in manufacturing, and to identify the policy change needed to scale those efforts. The Inclusion and Industry 4.0 (I&I) Project brought together leading practitioner organizations to understand and lift up best practices and challenges, and extract lessons for policymakers to expand support for community-based manufacturing training. I&I represents a critical component of TCF and UMA's goal to promote the development of effective workforce and education strategies targeting an inclusive future in manufacturing.

The I&I program builds on an earlier collaboration starting in 2017 when UMA joined TCF on their [High Wage America campaign](#), which published nine policy research reports and held conversations with hundreds of stakeholders across the industrial Midwest. The initiative, one of a new generation of high impact TCF policy research efforts to address inequality, attracted multiple 2020 presidential contenders (Senators Sherrod Brown and Kirsten Gillibrand, and now-President Joe Biden) to its events, and national media attention for its recommendations. High Wage America research concluded that tackling inclusion, alongside a move to more advanced production, would determine the fate of American manufacturing.

Manufacturing has one of the most aged workforces in the economy and currently faces a recruitment and skill-building challenge. These come on top of the fourth industrial revolution as manufacturers are redesigning production and products to take advantage of automation, artificial intelligence, and the internet

of things — demanding new skills at every level of production. To address these challenges, manufacturing companies and workforce development partners are developing new approaches to adult skill development that takes into account barriers to accessing, committing to, and completing long-term training programs. These same organizations are also going through their own learning and growing in order to better support Generation Z talent — individuals born between 1997 and 2012 — who as students experienced drastic economic, cultural, and technological shifts which have impacted K-12 learning, personal values, and ideas about meaningful, sustainable work.

Luckily, an exciting generation of workforce intermediaries is providing diverse workers new opportunities to attain skills in advanced manufacturing. These intermediaries served as our I&I cohort members, and focus on serving adults and adolescents, primarily those of color. Despite the loss of manufacturing in all of our cohort cities, these communities have long counted on the many remaining manufacturing jobs as a source



of middle-class income, especially for those workers who don't have a college degree. But a generation of

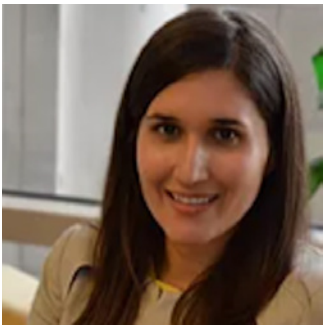
Industry & Inclusion 4.0 Cohort Members



Guy Loudon
Executive Vice President
Jane Addams Resource
Corporation
Chicago, IL and Baltimore,
MD



Catrina Crane
Director of Workforce
Development & Business
Solutions
Menomonee Valley
Partners
Milwaukee, WI



Jacqui Mieksztyn
Talent & Workforce
Strategist
Lightweight Innovations
For Tomorrow
Detroit, MI



Lizabeth Stuck
Head of Engagement &
Workforce Development
Manufacturing x Digital
Chicago, IL



Autumn Russell
Vice President, Diversity
and Inclusion, Early
College, Early Career
Manufacturing Advocacy
and Growth Network
Cleveland, OH



Michael Garamoni
Manager, Workforce
Development
Manufacturing x Digital
Chicago, IL



Brittany Becker
Program Manager
Manufacturing Advocacy
and Growth Network
Cleveland, OH



Stephen Tucker
President/CEO
Northland Workforce
Training Center
Buffalo, NY



Erica Staley
Executive Director
Manufacturing
Renaissance
Chicago, IL



Rhandi Berth
Chief Innovations Officer
Wisconsin Regional
Training Partnership
| Building Industry
Group & Skilled Trades
Employment Program
Milwaukee, WI

parents who experienced job loss from that industrial decline — particularly in urban communities of color — have served as a cautionary tale for current youth and young adults. As a result, many younger workers and their families today do not view manufacturing jobs as a viable pathway, and thus have not encouraged them to develop the skills needed to enter and advance in manufacturing careers. However, the rebound in manufacturing over the past eight years, means that good-paying jobs in manufacturing could once again make a big difference for urban communities of color, and others who need well-paying work — but only if comprehensive programs are in place to make the connections between communities, training programs, and these good jobs.

The innovative leaders of the eight I&I cohort members prove that with the right program models in place, a variety of un- and under-employed adults of all ages are able obtain the necessary skills to gain employment into a rewarding career in manufacturing, with further opportunities for skills advancement and wage progression. Through 2020, cohort members, TCF, and UMA worked collaboratively through virtual roundtable discussions, seminars, and interviews to explore policies and programs, questions of scale and sustainability, and promising practices. From this work many takeaway

lessons about education, training models, employer engagement, and supportive service strategies were organized, documented, and shared.¹ Moreover, this collective research will position these organizations as national leaders who can spark replication in other communities, and provide policymakers with a road map of how to make such replication and expansion possible.

How to use the research

TCF and UMA have packaged lessons learned from the Industry and Inclusion 4.0 Project into two publications: *Industry & Inclusion: Manufacturing workforce strategies building an inclusive future*, and *Industry & Inclusion: A Blueprint for Action*, this research report and blueprint for action. This report is a journalistic set of profiles of our cohort organizations and the people who power them. *Industry & Inclusion: A Blueprint for Action* is a set of conclusions and insights based on the common themes of: Learning, Racial Equity, Economic Justice, Pathways to Ownership, Relational Innovations, and Creating Strong Partnerships. These publications highlight barriers and opportunities at the intersection of workforce and economic development, place a spotlight on leading members of the cohort, document learnings from the cohort's interactions, and organize research and public policy recommendations.

The scaling of successful workforce programs like those highlighted in these publications will be aided by complementary public policies. TCF, UMA, and the I&I cohort are promoting a greater priority on inclusion throughout federal manufacturing programs, such as Manufacturing USA and the Manufacturing Extension Partnership, and national workforce development programs, such as the Workforce Innovation and Opportunity Act (WIOA). TCF's *Industry & Inclusion: A Blueprint for Action* includes an analysis of ways in which federal workforce and higher education policies can be reformed to facilitate the scaling of I&I cohort members and similar program models. In addition,



¹ See Appendices.

Industry & Inclusion: A Blueprint for Action includes state and regional action areas, including how to invest federal and state dollars and how to structure higher education involvement in non-degree credential programs in manufacturing.

This report includes a summary of the interactions and discussions between cohort members, UMA, and TCF; reflections on connections within those discussions; and a collection of technical descriptions and personal profiles that share the stories and backgrounds of program leaders and stakeholders with whom they work. *Industry & Inclusion: Manufacturing workforce strategies building an inclusive future* will help similar workforce development organizations gain insights to improve upon existing practices and provide guidance and connections to help make the leap to new beneficial practices. Together, *Industry & Inclusion: Manufacturing workforce strategies building an inclusive future* and *Industry & Inclusion: A Blueprint for Action* are meant to be used by many different stakeholders who are advocating for new, continued, or expanded support for community-embedded, innovative workforce development organizations that are training current and future manufacturing talent.



SUMMARY OF METHODOLOGY

The goal of the I&I program was to create an opportunity for program leaders to tell the story of their work from their perspective, create a space to discuss what is and isn't working in current strategies, and identify challenges and discuss solutions to increase impact. To achieve this, TCF and UMA organized a new cohort of urban, community-based organizations that have built workforce development programs to help create new education and career pathways for women, communities of color, people with conviction histories, veterans, and other marginalized communities. TCF and UMA's original research plan for the cohort included in-person discussions, facility visits, and national gatherings. Due to the COVID-19 pandemic all activities shifted to virtual gatherings and discussions. The pandemic provided an unexpected backdrop that amplified the importance of the project. Yet, the economic shutdown due to social distancing guidelines, combined with a spike in demand for personal protection equipment and the shutdown of global supply chains, increased awareness of the importance of local factories as places where both essential products are made and where frontline workers work. Also during the I&I cohort, police officers in three different cities murdered George Floyd, Breonna Taylor, and Rayshard Brooks — three Black people, three among far too many before and after them — further amplifying the importance of taking action to include racial equity and inclusion in economic development and workforce strategies. While it is hard to fully grasp how collective learning may have been impacted by these historic moments, it is important to acknowledge they created an immediate shared learning experience that brought participants together in unanticipated ways.

How the project was done

TCF and UMA reorganized our original learning program into all online interactions between cohort members, project conveners, an advisory board, and other



Abbie Langston
Senior Associate,
PolicyLink



Emily Stover DeRocco
Founder & CEO, E3
Engage Educate Employ



Livia Lam
Senior Vice President at
Strategies 360



Bernadine Hawes
Senior Research Analyst,
Community Marketing
Concepts, Inc.



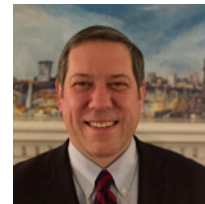
Héctor Huezco
Senior Workforce Equity
Coordinator, Jobs to
Move America



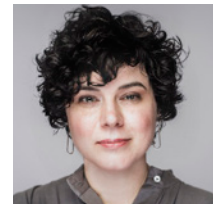
Montez King
Executive Director, NIMS



Chauncy Lennon
Vice President, The
Future of Learning and
Work, Lumina Foundation



Jason R. Drake, Ph.D.
Director of Education and
Workforce Development,
Dan T. Moore Company



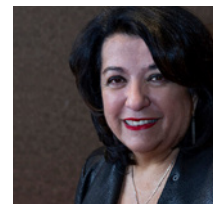
Sarah Krasley
CEO, Shimmy
Technologies



Dan Swinney
Founder, Manufacturing
Renaissance



Keenan D. Grenell, Ph.D.
Executive Director,
Manufacturing Diversity
Institute



Teresa Córdova
Director of the Great
Cities Institute (GCI),
University of Illinois at
Chicago



Elmer Moore Jr.
Executive Director, Scale
Up Milwaukee



Linda Fowler
President, Regionerate
LLC



William B. Bonvillian
Senior Director for
Special Projects, MIT's
Office of Digital Learning

national experts. The research team used contemporary approaches to knowledge transfer to identify the impactful ways these eight models have been able to seed and scale programs in their own communities while strengthening local manufacturing ecosystems.

The research methods implemented over the course of the 12-month program include: roundtable discussions between all cohort organization stakeholders (industry leaders, trainees, education partners); webinars featuring cohort members, advisors, and subject matter experts; and one-on-one interviews with program leaders and stakeholders from their region. Qualitative analysis was done of these discussions to connect themes across conversations, cities, and programs. Through analysis of the findings, we extracted lessons from the field and identified barriers to success. We designed research questions in each of the structured discussions to capture the strategy behind how cohort members work



with communities and businesses to create career pathways for workers, particularly in communities of color and low-income populations, who currently are not well-connected to the manufacturing sector.

Within the larger conversation about workforce development and ecosystem engagement, we asked questions dedicated to more focused elements, such as the effects of different credentialing models — such as apprenticeships, higher education programs, or competency-based credentials — and relationships with educational institutions on program design and outcomes. We included other questions to better understand the continuing impact of Industry 4.0 technologies, such as automation, cybersecurity, and the internet of things, on the requirements in the manufacturing workforce, and how these are changing the skills required for manufacturing jobs. Within each discussion we intentionally left time and space open to allow more organic sharing and reflection.

While we based observations on qualitative research, we made conclusions in the context of the data these programs provided on job placement, wages, and credential attainment. TCF and UMA developed a standard data request for each organization participating in the cohort to organize data on demographics of participants, data on training completion and credential attainment, and job placement and retention, among other topics like funding sources and key partnerships. .

To help guide and ground the research, TCF and UMA organized an advisory board to provide a deeper knowledge of workforce development models. Our advisory board was made up of national workforce development thought leaders from academia, the private sector, nonprofits, and government. The advisory board provided a much-needed national framework to the local conversations with the eight cohort members.

REFLECTIONS

Given that each cohort organization participated in a three-hour roundtable group discussion, a series of one-on-one interviews, and monthly gatherings, it is impossible to fully share all the stories and moments of learning that informed TCF and UMA's insights and reflections. This process yielded shared experiences and pain-points across multiple organizations, despite working in different cities, with different stakeholders, and within different regional histories.

Many discrete discussions ran through the collection of stories and backgrounds of the cohort members. Individual organizations talked about the process and difficulty of finding skilled trainers to provide technical instruction who also have the social awareness to work with BIPOC communities, individuals who have little to no work experience, and those who live in neighborhoods that have experienced high amounts of trauma.

Each cohort organization approaches this process in their own way. Some have been able to successfully recruit diverse teachers from industry to work full time within their companies, such as Jane Addams Resource Corporation (JARC). Other organizations have built relationships with education partners that have developed train-the-trainer style programs to help teachers better understand their students' experiences, which is a strategy Northland Workforce Training Center (NWTTC) and Manufacturing Renaissance (MR) have created. Finding capable teachers echoes part of another ongoing conversation: it is important to find the right people for the right position. This goes for many different roles within the education-to-career pathway support network: roles which include technical trainers, mentors, career coaches, employer recruitment and support, program marketing, and program advocates. These conversations also touch on the idea that the whole ecosystem needs to fill these roles rather than one individual organization having all of them under one roof.



Having many partnerships within a regional ecosystem — that contribute to the well-being and support of current and future employees *and* manufacturing businesses — was talked about by all cohort members. There is no one way to build these relationships, nor is there just one perfect combination of partners. For example, Lightweight Innovations For Tomorrow (LIFT) and Manufacturing x Digital (MxD) have built connections to technology developers through their non-workforce development work as Manufacturing USA Institutes. They have been able to turn those connections into partnerships which have opened new possibilities for teaching high school students about cutting-edge technologies. Many organizations discussed working on ways to strengthen their regional connections to the education and workforce development networks. Even though both networks are on the education continuum, they tend to operate very differently, leading cohort members to develop separate ways to build partnerships with individual groups.

The most consistent relationships that all organizations have are with networks of manufacturers and of social service providers. Yet again, there are unique ways

to manage these network relationships. Some have created fee-for-service incumbent training programs to bring manufacturers to the table — for example, JARC and Wisconsin Regional Training Partnership / Building Industry Group & Skilled Trades Employment Program (WRTP | BIG STEP) — and others rely on placing newly skilled workers in manufacturing businesses to build interest for ongoing programs, as is the case with MR. Creating relationships with social service providers often depends on building trust with individuals at each organization and providing education and insights about why the communities they serve should be pursuing careers in manufacturing.

Investing in relationships with social services, employers, and the larger ecosystem illustrates another key point: organizations often have to do a lot of work beyond skills training. One instance includes coaching employers to learn new practices and implement policies that correct for discrimination against BIPOC and women, one of the most often cited extra tasks. Some of this coaching is done one-on-one, in subtle ways, like Manufacturing Advocacy and Growth Network's (MAGNET) intern coach who helps employers understand and communicate expectations with their trainees. Whereas Menomonee Valley Partners (MVP) works with external partners to develop race and gender equity training programs for employers. JARC is launching a group discussion forum for many business leaders to come together to discuss race, equity, and inclusion barriers and strategies for change. This work outside of training illustrates gaps within the ecosystem. Many organizations have developed an informal process of taking on extra work, uncovering why it is needed, then finding new organizations to bring into the ecosystem to fill the gap. When this is not possible the next step is often to communicate the importance of doing the “new work” and then seek funding to cover the costs associated with it.

The day-to-day operations, program offerings, and service networks of each organization illustrate the effort it takes for a trainee to transition from no employment, or underemployment, to full time employment. Sometimes the effort is about planning new strategies

for childcare, overcoming family and peer pressure, or covering rent and transportation costs. In other cases the effort is fighting against racist and inequitable employer practices. Each cohort leader shared, in their own way, their empathy and awareness of what it takes to commit to, what for many, is a very new and life-changing experience of learning skills needed to work in manufacturing. This awareness translates into many different strategies, all of which help make this big transition easier. As mentioned previously, all organizations have built social service networks in part to help with easing this major life transition and reducing the effort needed to solve problems associated with creating new childcare options, transportation, and even clothing. Organizations have implemented strategies internally as well. MR and MAGNET, for example, have created mentor programs to connect a trainee with someone who has shared life experiences to help guide them through the process and acknowledge their effort. NWTC and JARC offer career coaching to help individuals ease the transition into employment, preparing them before they start their career for how to navigate on-the-job conflicts and how to advocate for themselves. And, MVP created a women in manufacturing program to connect young women to professionals in careers in manufacturing to help build bridges that previous generations did not benefit from.

The following Profile Library section provides more information on these individual organizations for further study and to help uncover more connections and relationships across the I&I cohort members. *Industry & Inclusion: Manufacturing workforce strategies building an inclusive future* provides both deeper explanations as to how these themes were discussed and provides recommendations to change policies in response.

JARC PROFILE

Introduction

As part of the Industry & Inclusion 4.0 Project, UMA interviewed cohort members and their partners to gather background information and details about how they create and deliver programs. From these discussions UMA generated Organizational Profiles for each of the eight cohort members. These Organizational Profiles are divided into two parts:

Technical Descriptions: snapshots of each workforce development organization which include a brief description of their history, an overview of how their signature programs operate, self-identified keys to success, recent outcomes, and their future plans for scaling the impact of their programs.

Personal Profiles: stakeholder interviews to gain a deeper understanding of the relationships that exist between the workforce development organization and the communities and employers they serve. These include trainees, industry employers, and partners in education.

Each Organizational Profile is meant to shed light on how each cohort member successfully navigated the process of designing and implementing an innovative workforce development solution for their region and for people they support. As a collection, these eight Organizational Profiles highlight the importance of: building partnerships and ecosystems, navigating stakeholder engagement, remaining open to ongoing improvements and learning, and understanding both employers' needs and the needs of the current and future workforce.

In the Personal Profiles you will find individual meaningful experiences of: how people's lives were changed by the training programs, how after graduating trainees return to give back to the next generation, and mentorships

between intergenerational workers that share a culture and background. And like the Technical Descriptions, the collection of Personal Profiles highlight important themes. For example, the need for: committing to ongoing dialogue with the community to understand their needs, cultural awareness within manufacturing companies, and a broader definition and understanding of impact and outcomes.

The Organizational Profiles provide a glimpse into the inherent complexity of preparing a new workforce for an ever-changing industry. What UMA found compelling through these discussions is that each cohort member has become an expert in discrete topics like recruiting the right people, building an ecosystem, and supporting the transition of workers. Even though no two organizations operate in the same way, they have all come to understand key important principles: leverage what makes one's region unique; bring partners of all kinds to the table to develop ideas and get feedback; create a culture of learning and education as a lifelong process, within their own organizations and within the manufacturing businesses they work with; and new programs require social innovation — a change in behavior — on the part of trainers, trainees, employers, and funders.

Please visit urbanmfg.org/project/industry-and-inclusion-national-cohort to read our research, commentary, and the seven other cohort member profiles.

JANE ADDAMS RESOURCE CORPORATION [JARC]

JARC promotes strong communities, businesses, and households to ensure that people who work do not live in poverty.

Chicago, Illinois & Baltimore, Maryland

Technical Description // 14

- Brief Introduction, History, & Background
- About Careers in Manufacturing Programs and Business and Workforce Services
- Keys to Success
- Outcomes
- The Future [Scaling]

Personal Profiles // 20

- Adonis Summerville** Senior Manufacturing Instructor, JARC 20
- Anna Hawkins** Trainee, JARC 22
- Lina Cesadero** Trainee, JARC 24
- Teaera Strum** COO, Strum Contracting 25

Brief Introduction, History, & Background

Jane Addams Resource Corporation (JARC) was founded to keep manufacturing and industrial middle income jobs in the Ravenswood Industrial Corridor of Chicago. Their earliest strategies focused on purchasing and operating commercial space for industrial use. JARC grew and implemented new strategies as more research and increased interactions with manufacturers pointed to the need for upskilling incumbent workers. In the mid-1980s, JARC launched its first training program focused on providing employers incumbent worker training by going to their facilities and training on their equipment. JARC broadened their scope of work in the '90s and established a training center to teach community residents seeking jobs in manufacturing. JARC developed their in-house training programs for positions employers in the Ravenswood Corridor needed filled and for individuals who had no prior experience in manufacturing.

In the early 2000s JARC became an early adopter of the Center for Working Families (CWF) model of supporting new workforce trainees developed by the Annie E. Casey Foundation. The CWF strategy is focused on careers, not jobs, which means it focuses on creating systems that support the whole individual. By integrating the CWF program with the technical skill development program, JARC trainees — both new and incumbent workers — learn manufacturing skills and financial planning and management skills. Also in the early '00s, JARC launched their Manufacturing Bridge Program (MBP) which teaches introductory shop skills, such as how to read blueprints, as a way to improve math and reading skills. The MBP prepares individuals to participate in JARC's manufacturing training program, establishing a new path for more people to apply and succeed.

As manufacturing changed with new digitally controlled tools, JARC's staff, center, and programs kept up, developing programs in computer numerical control (CNC) machine operation, and most recently developing

a 10-week course in 3D-printing. In 2015 JARC launched an affiliate organization in Baltimore, Maryland — Jane Addams Resource Center Baltimore — and in 2017 they added another Chicago-based training center in Austin, a neighborhood on the west side of Chicago. Across all sites, JARC now offers eight manufacturing skills training programs ranging from fundamentals of manufacturing to mechanical assembly to more focused programs in press brake operation and welding. JARC has worked with over 400 employers to develop customized on-site training, to create customized apprenticeships, and/or to complete analysis of their existing workers to better understand strengths and weaknesses among an existing workforce. While JARC has grown and evolved over their 30-plus year history, their guiding belief has stayed the same: "People who work should not live in poverty."

"We really do a lot more than job training. We provide people with a pretty robust set of services and options and so the more we know about them, the more we can help to make sure that it's going to work."

-Guy Loudon, Executive Vice President and former President

About Careers in Manufacturing Programs and Business and Workforce Services

JARC serves both sides of the workforce development community: the employers and the workers. The Careers in Manufacturing Programs (CMP) was created to help any individual, regardless of their skill set, prepare for and gain a job in manufacturing. The Business and Workforce Services (BWS) program offers employer partners customized, on-site training to upskill incumbent workers. Both programs tap into JARC's dedicated staff of adult learner educators, coaches, and technical trainers.

Once a week JARC hosts an application session in each of their Chicago locations for job seekers interested in the CMP. An in-person session lasts for seven hours

and covers a lot of different topics because individuals often don't have any knowledge of manufacturing or about careers in manufacturing. Sessions were designed for job seekers to learn about and evaluate if a job in manufacturing is right for them. The same sessions are opportunities for JARC to learn about the job seeker. JARC's goal in this application process is to learn as much as they can quickly. JARC wants to know about the applicants' experiences both on the job and off; they want to know about potential barriers to participating in training, like the need for childcare or transportation; and they want to know if the applicant is interested and motivated. The application sessions are all about building a candid, honest relationship, and trust, between JARC and a potential trainee. These sessions are an appraisal process because JARC and their support network invest significant financial resources and social capital into trainees, and the trainee will invest a lot of time and energy into the program. If both sides fail to understand what is required and aren't equally invested, those resources are not recoverable for either side.

Participants start by taking a tour of the training center, to see manufacturing processes and technologies in use, and to get a chance to talk with existing trainers and trainees. Afterwards, applicants fill out a rigorous application. The length of the application is another element of getting to know the applicant. Staff at JARC have come to learn that if people tend to skip questions on the application it shows they aren't invested in the opportunity and not that interested in the commitment it takes to be a trainee at JARC. Applicants then take the Test for Adult Basic Education (TABE) to determine their math and verbal skills. Based on their scores, they may move on to an interview or be referred to the Bridge Program or the Adult Learners Programs and Services (ALPS), which provides math and English tutoring and

the education necessary to be successful in one of the Careers in Manufacturing Programs. Once an applicant has made it through the one-on-one interview, JARC may ask for references and job history details. The thorough application process is not about removing candidates, or weeding people out, but instead it is designed to find people that are a good match and serious about fully engaging.



At the Ravenswood facility, trainees can sign up for one of three tracks: CNC Operator, Welding, or Brake Press. All tracks range from 10 weeks and 250 hours to 20 weeks and 500 hours. In the CNC Operator track, for example, over the course of 500 hours, trainees learn at JARC's training center equipped with technology comparable to that used by employers in the region. They learn about running manufacturing equipment using computers, writing code, cutting feed and speed rates, and types of cutting tools. A normal week of training runs Monday through Friday, seven hours a day. Within that 10- to 20-week period, every Friday, trainees participate in the CWF training via group and one-on-one work sessions with a financial coach and an employment coach to develop skills for managing household income, writing resumes, applying for jobs, and learning how



to navigate on- and off-the-job stresses. When training is complete, individuals are prepared to take tests in: National Institute for Metalworking Skills (NIMS) credentialing for CNC Milling Level 1 and NIMS CNC Turning Level 1; and complete the OSHA 10 HR (General Industry) safety course. Since 2006, graduates of the Careers in Manufacturing Program have gone on to work for 411 different companies, 99 of which have hired between 2 and 62 graduates.

JARC's Business and Workforce Services program (BWS) designs and delivers customized worker training for manufacturers and their employees. JARC works with their BWS customers to develop on-site training that incorporates their specific manufacturing process and technologies. The customized training fits within five training topics: workplace safety, basic skills, quality assurance and quality control, manufacturing technology, and lean manufacturing. Before the training, a company can hire JARC to complete a skills assessment for their existing workforce in order to better align training with the existing talent. Training schedules are developed with the employer in mind to create ways that disrupt the production floor as little as possible, while also making

sure training is done in a timely manner. This means, depending on the skills being developed, a worker may be participating in training between two and eight hours a week. Each year the BWS program works with between 20 and 30 companies, most of which are repeat customers but, on average five are new.

Keys to Success

Over the last decade JARC has developed a strong mix of strategies and innovations. This is the first key to success identified by Guy Loudon, Executive Vice President

and former President of JARC. As an example, the Careers Manufacturing Program blends shop floor learning, simulated to model a work environment; trainers who promote peer learning, teamwork, and leadership development; project-based learning; a curriculum in line with credentials from NIMS or AWS; open entry/open exit¹ enrollment and graduation; and the Bridge Training Program for working families. These elements are brought together in such a way that employers consistently tell JARC their trainees are prepared above and beyond the standards set by other workforce development organizations.

Having outstanding staff plays a big role in JARC's success. JARC understands that dedicated, value-driven people make it possible to recruit and develop a very skilled and motivated team. This has led JARC to have the largest number of full time technical trainers at a non-academic institute in Chicago. The frontline staff are mission-driven and care deeply about the trainees. The instructors are all really good at what they do, or they tend not to stay long. Instructors are either in the classroom teaching, working on new curriculum,

¹ Open entry/open exit allows new trainees to start a training program right away regardless of when existing trainees started the program. This strategy also allows individuals to exit the program when they are hired even if they haven't completed the full training.

or engaging with possible applicants or employers interested in customized training. They are always on the go and looking for new ways to improve the program and support system.

Outstanding partnerships are necessary for JARC to focus on what they do best. JARC has had a lot of opportunities to grow and the best outcomes have all been centered around outstanding partners. The strongest example of this is JARC's expansion into Baltimore. JARC was brought in by the Association of Baltimore Area Grantmakers as well as government and private sector partners. Because Baltimore doesn't have members of the Financial Opportunity Centers or organizations that implement the Center for Working Families model as they do in Chicago, JARC had to develop partnerships to develop the support systems necessary to meet the needs of their trainees. All the organizations were motivated and excited to work together which allowed JARC to replicate their model quickly and efficiently. The same is true in Chicago. For example, an employer partner recently stepped up and provided space to host JARC's new Austin location after they were forced to relocate. JARC also works with Manufacturing Renaissance on developing policies to promote holistic workforce development strategies across the city.

Loudon also acknowledges the role new recommendations set forth in the federal Workforce Innovation and Opportunity Act (WIOA), signed into law in 2014, played in their recent success. The act created a sharp break from workforce strategies that were in place from the '70s to the early '00s. WIOA promoted sector strategies for identifying skills development and understood the need for support services — two fundamental elements JARC had in place from the beginning. It is agreed that workforce development hasn't completely changed and adopted the recommendations, but it is waking up the workforce

development community to leave behind racist and uninformed practices. WIOA has helped JARC and other similar organizations by setting new standards for what a good workforce development organization is and how it should operate. These standards are impacting how and where financial resources can be allocated.

“Because it’s a simulated work environment that is very project-based, we do a lot of peer-based learning. It’s not for lack of resources, it is part of the design. We want our trainees to learn how to be team players, how to give and receive leadership, and how to give and receive criticism. When you’re struggling in the world of work, you don’t go get your foreman, you ask a coworker that you have a working relationship with. When you’re an incoming trainee, you may be working under the wing of a senior trainee, observing him or her while she goes about her projects. And then after lunch, she may be taking you into the lab and helping you set up your first program.”

-Guy Loudon, Executive Vice President and former President

Outcomes

The majority of individuals JARC serves through the Careers in Manufacturing Program meet the federal and state WIOA eligibility requirements for Individual Training Accounts (ITAs). To be eligible for an ITA, one has to be a low-income individual, a dislocated worker, an individual with limited skills and barriers to employment, or a youth. The majority of ITA-eligible individuals in Chicago are people of color and women. By working with this audience JARC is helping make the advanced manufacturing sector more diverse. At their core, they are helping people learn, promoting those who are learning, and helping manufacturing companies keep their talent working.

Beyond helping over 400 people complete training and find jobs over the past 10 years, JARC has developed other initiatives that have made an impact. JARC's Women in Manufacturing Program (WMP) addresses gender in manufacturing jobs that traditionally are male-

dominated. Women participate in the CMP tracks and family service support systems while also gaining access to the Emergency Fund to mitigate short-term financial emergencies that often derail commitment to training. The WMP also offers more customizable and flexible scheduling options. Because of this program, 20 percent of JARCs trainees are now women. In 2019, the Center for Urban Research and Learning at Loyola University Chicago completed a study on the WMP and developed new recommendations and materials for JARC to increase their ability to recruit and retain female trainees.²

JARC is also creating more employer-based outcomes with a new initiative called HR Roundtables: discussions on equity and inclusion in partnership with Women Employed and the Race Matters Institute at Just Partners. The first roundtable was offered in March 2021 and focused on sexual harassment in the workplace; the second will focus beyond diversity, to racial equity and inclusion, in the summer. JARC plans to ask Industry Advisory Council members to recruit their HR staff and decision makers to attend and participate in the dialogue. JARC is also reaching out to their network via their newsletter. The roundtables are a first step in helping local manufacturers develop new equitable practices. The belief is that businesses will attend because they know they can, and want, do better. Rather than bombard them with more reasons why they should change, JARC is working with partners to focus on offering companies a way to learn how to adopt new strategies. JARC has secured grant funding to cover costs for local manufacturers to bring in Women Employed — a nonprofit advocacy organization whose mission is to improve women’s economic status and remove barriers to economic equity — to help them write new sexual harassment policies and learn best practices.

“The role of the Industry Advisory Council is a way of organizing the end customer employer and giving them a voice in what we do. And that is a real voice, it’s not symbolic. The employers are really engaged through that medium. Our press brake program was developed because the Advisory Council asked for it. Same for the new 3D printing track. They gave us feedback that trainees could be better skilled in their frontline quality assurance functions. So we really ramped up the training to make sure that it was much more systematic. We really count on the Council to help us get better.”

-Guy Loudon, Executive Vice President and former President

The Future [Scaling]

One of the challenges facing JARC is that they get more opportunities than they can responsibly accept while meeting their high standards. This means JARC has to be very strategic about their growth, making sure that what they are adding is mission-driven and responsible, not just growing for growth’s sake. This reinforces the role that partnerships play in JARC’s success. A 2018 report by American Enterprise Institute³ helped JARC understand why Baltimore succeeded and why Metro West — a JARC training center located in the Chicago suburbs — failed. The research helped reinforce the role of and need for engaged stakeholders outside of JARC.

JARC sees themselves expanding in Chicago as they continue to operate their original site and headquarters in Ravenswood and their newer location in Austin. These locations run their Careers in Manufacturing Programs, offering tracks in CNC operation, welding, and assembly. JARC is working on a new site in Chatham on the South Side. They will start by offering tracks in assembly and 3D Printing. These new expansions demonstrate JARC is getting better at evaluating opportunities to replicate and expand.

Beyond Chicago, JARC is working to expand their center in the Park Heights neighborhood of Baltimore. This

2 Recruiting Women into Manufacturing Job Training at Jane Addams Resource Corporation https://www.jane-addams.org/files/9715/6349/1187/Recruiting_for_nontraditional_trades.pdf

3 What Works: Replicating Success at the Jane Addams Resource Corporation <https://www.aei.org/spotlight-panels/what-works-replicating-success-at-the-jane-addams-resource-corporation/>

means recruiting more trained staff, getting the word out to more potential applicants, and continuing to find new employers and support service partners. JARC is also in initial conversations to open a location in Rhode Island.

Now that JARC has had some experience replicating its model, each new location is getting easier. They have developed a specific approach and system that allows them to gauge whether the commitment to a new location is a good fit or whether they should change course and review other opportunities. By 2022, JARC plans to have three locations in Chicago, one in Baltimore, and one in Rhode Island, while still being open to other opportunities.

The evaluation of those opportunities is consistent with JARC's updated strategic plan which incorporated a race, equity, and inclusion lens. This means JARC is working on being physically present where there are long-standing issues of racism and inequality — something they believe to be more important now than ever. That's where JARC wants to find themselves in the future: making a difference in distressed and marginalized neighborhoods that are being left behind.



Adonis Summerville

Senior Manufacturing Instructor

Jane Addams Resource Center

One evening on the West Side of Chicago, Adonis Summerville was on a city bus when a friend from high school came aboard and asked him one life changing question: *what are you doing with your life?* What was an expected question between old friends took Summerville by surprise.

“It was one of the hardest questions,” recalled Summerville. “I was never really approached like that before. I felt kind of attacked.” When Summerville responded with the same question, his friend told him that he was learning CNC at Jane Addams Resource Corporation (JARC). Ten years later, not only is Summerville a certified CNC professional, but he teaches it at the same program where he learned it.

When Summerville went through JARC’s training, the program did not have as many machines as they do now, so most days it was first come, first serve. This made him eager to get into the shop before anyone else, including the instructor. With a deeper purpose behind his punctuality beyond just getting to class on time, he still had to learn the programming, which he found extremely challenging.

“One day after class, I’m taking the train home, flipping through my book, trying to understand CNC programming and it just clicked,” Summerville said. “That was my lightbulb moment, and I knew that I had to take advantage of that.” With his newfound confidence and a six-month old daughter at home, Summerville became motivated to learn everything he could about CNC. He felt that he was on a different path than his fellow classmates. He finished the program in three weeks and got a job upon completion.

“I felt like this was definitely my calling. I turned it into a ball of fire, I ran with it, and did not take it for granted. I think it was probably the best thing that ever happened to me,” he said, remembering his thinking at the time, before joking about not following in his father’s footsteps. “I don’t want to be an electrician. My father was an electrician. That’s too dangerous for me.”

As an instructor at JARC, he takes a hands-off approach, preferring that trainees learn CNC in a factory-like atmosphere rather than in a traditional pedagogical manner. At first, this was costly for JARC because students kept crashing the machines. Listening to him break it down, his teaching style would intimidate even the most eager trainee, but Summerville has proven that it works. When he was a JARC trainee, the program was only long enough to be certified for CNC mill, not CNC lathe. When he became the instructor, he wanted students leaving the program with a certification in both mill and lathe. Some of his students have done just that in six to eight weeks.

Summerville’s goal is for his students to understand how CNC works from start to finish, so that they do not fear crashing the machine. He wants them to understand that on a job they may only have 30 days to prove their worth to a company, so they need to be fully accountable for their machine and their parts. He wants them to get



accustomed to being taught by their peers and teaching others what they know, because in a work environment they will be placed in similar situations, sometimes with people who are completely different from them.

When Regan Brewer, now Executive Director of JARC, approached Summerville to be one of their metalworking skills instructors, he turned her down many times. He had been working for John Crane, a local firm, making six figures a year, and teaching was far from his mind. Then in 2017, she caught him at the right moment, offering him much less money than he was making at John Crane, but more of a meaningful experience. Though he loved his job and felt needed at John Crane, he made the decision to join JARC. Then, John Crane offered him a part-time position – something they never do – so that he could continue to work there while teaching. Once Summerville was offered teaching positions at both of JARC's locations in Chicago and Baltimore, he had to leave John Crane completely.

After three years instructing at JARC, Summerville is grateful to be one making a way for others to succeed. "A few years before I met my friend on that city bus, I was in prison, " said Summerville. "I always tell people that's why I came back to teach at JARC. People here are trying to change their life, which is what this class did for me. I could have just been another statistic, but I felt like I made the changes that I needed to make to get where I am now. I've come a long way, and I owe a big part of that to my friend I saw on the bus and to JARC."

Anna Hawkins

Trainee

Jane Addams Resource Center

Years before her training at JARC, Anna Hawkins worked for a cosmetics company doing visual merchandising in a soap store. She spent her shifts surrounded by savory fragrances while cutting and stacking soap. How did she go from separating soap to joining steel in JARC's welding program?

"I like working with my hands," explained Hawkins, who loves practicing self-taught crafts like painting and drawing for fun. "I'm not good at them yet. But I still try all the time." Her grandfather had a furniture repair business in his garage when she was younger, so her love of working with her hands is shared by at least one other person in her family.

Prior to joining JARC, Hawkins went to college to study nutrition and dropped out, but returned to study public health. Both times in college, she juggled two part-time jobs while studying. "I lived on my own and had no outside help with my expenses. It was getting tough, I was struggling to even pay rent sometimes. I had to ask myself if I was going to college because I was told that was the only way, or if I was going because I could truly see myself using the degree that I was pursuing." Although Hawkins knows she could probably go back to college for the few courses required to get a degree in public health, she sees a future for herself in manufacturing.

She was prepared for the hands-on education at JARC, but was surprised at the breadth of the curriculum. She was expecting the program to be more intensive than extensive, but accepts that much of her learning will take place in the workplace.

"I started to get frustrated, because I wasn't working on the machines as much as I wanted to," admitted Hawkins. "I was doing the same thing over and over again." When she understood that the objective of JARC was to prepare her for the workforce, and not teach her everything that she needs to learn, she became less discouraged. Now she is proud of her choice.

"There's never a day where I'm just sitting or doing book work," described Hawkins. She says she is blessed to have teachers that capture the attention of the students. Hawkins loves the passion that she sees from the educators and how they build confidence. "When you first get into welding, if you've never done anything like that before, it could be kind of scary, because you don't want to hurt anybody or yourself."

Hawkins tries to be a great example for other younger people like herself, but is dismayed that too many are looking for ways to get rich quickly or to find fame on social media. When she told one of her friends that she was joining a welding program, her friend was puzzled. That is why she has her own suggestions for what programs like JARC can do to attract younger people.

"I would love to see JARC and programs alike specifically going to career days, after school programs, community colleges, or malls and shopping centers in



underserved or lower income communities,” Hawkins said. “Specifically, where young people would not usually be exposed or privy to opportunities like the programs at JARC, giving them other options to consider for their futures.”

With so many options for her to pursue in welding, she is not sure what she wants to do. All she does know is that she wants to work on different projects everyday, and not be stuck doing the same thing all the time. Like some of her teachers, Hawkins is interested in returning to JARC at some point as the one in front of the class educating the next generation of welders.

“I would definitely be open to giving back and even helping JARC with ideas and helping to materialize whatever the program looks like in the future.”

Lina Cedasero

Trainee

Jane Addams Resource Center

After getting promoted twice within a logistics company, Lina Cedasero had no idea where her career would go next. Eventually, she slowly began to realize that the future she was looking for was not in some far away place or an-out-of reach industry. It was right next door.

Cedasero worked as an inbound coordinator at a warehouse in Chicago where the company shared a large facility with a candy manufacturer. Over time she would get to know some of the employees at that manufacturer and they would tell her about their jobs. She was impressed by the variety of professions that they did and the volume of work that they handled.

“They were always busy,” recalled Cedasero. “No matter what, it could be a down day for us, but they were always busy. And they were getting paid well.” One of her friends from high school had just graduated from JARC after working for years at O’Hare International Airport. Though Cedasero did not know what JARC was, it was her friend who recommended the program.

When Cedasero looked around at the other business in the area and the products that they produced, she became interested in manufacturing. She began to ponder that if a company manufacturing candy had so many interesting jobs, then companies making even more robust products will have just as many and more opportunities. “That’s why I decided to go through the program at JARC,” said Cedasero. “So I can know what they do, and learn from them.”

Receiving CNC training at JARC was a new experience for her. Everything from the terminology to learning to code was new. “They give you a book to read, do the work and move on to hands-on training. That’s how you

learn,” she said. Though she doubted herself at the beginning, she became confident enough to show other people how to use the machine. Now as a certified CNC operator, she encourages other trainees to get their certifications. When they are reluctant, Cedasero tries to convince them.

“You already know how to do it. Just get certified,” is what she tells them. “That makes you more legit.”

As for her younger relatives, Cedasero is already trying to influence them. “My niece saw me doing math and working with blueprints in the beginning, and commented how she does that in her school too. I told her to keep with it, because in the future that knowledge can open a lot of options.” With her 18-year-old nephew, who is harder to influence, she tries to get him to join JARC by encouraging him to watch YouTube videos of people making things with their hands and with machines. “You know, in the future, you could probably even have your own machine and make whatever it is you wanted to make,” she tells him. “You could start a business. You never know.”

Cedasero has shown that just making friends within the neighborhood, even at work, can open up a world of possibilities just next door that you didn’t even know were there.



Teaera Strum

COO

Strum Contracting

In seven years as COO, Teaera Strum has turned Strum Contracting into one of the most sought-after entities in Maryland construction. Over this period of time, the company has grown from five to 25 employees, and from a 1,200-square-foot office to a sprawling 20,000 square-foot facility. Strum Contracting has benefitted from the presence of Jane Addams Resource Corporations (JARC) in the Baltimore community, which has trained new and existing employees, further adding to productivity.

“I found out that JARC was opening their second site in Baltimore through a guy named Jim Earlbeck who runs Earlbeck Gases & Technologies,” recalled Strum. “He’s very well known in the welding industry here in Maryland.” After going to a meeting with Earlbeck, Strum fell in love with what JARC was trying to achieve. It was that moment she committed herself to helping the program make Baltimore its permanent home. As she became more aware of JARC’s focus on underserved and chronically unemployed communities, Strum became more involved. When JARC Baltimore graduated its first cohort of students, Strum Contracting was the first employer to hire from the program. JARC was not only a match made in heaven for Strum Contracting, it was a dream come true for Strum herself, who was looking for a way to create an in-house program for her company to train and employ those in underserved areas.

“I was looking to see how we could develop some type of program where we could help people learn how to weld and change the trajectory of their life,” explained Strum. “Since the city of Baltimore has a high unemployment rate, teaching skills that can feed their

family and eat for the rest of their lives was my goal.” Her thinking was that in Maryland, learning welding is a skill and certification that someone could pick up in a matter of weeks. In a short timeframe, a potential welder can go from making minimum wage or less, to making \$20 to \$22 an hour. In the heavy civil construction sector that Strum works in, welders can make \$27 to \$32 an hour on some projects. Strum knew from her previous position that a program that utilizes a person’s skill set and provides people with a way to better themselves could be successful.

“I come from the sports industry, specifically the National Collegiate Athletic Association. Towards the end of my career there, I was doing program development and evaluation within a department called student athlete development,” described Strum. “Essentially, it’s working with student athletes to discuss next steps in their careers, as making it to the professional level isn’t always feasible for most.” Her role with the NCAA was to help students use their education for their next act in life by giving them the tools to take their short-term opportunity which came through sports, and propel them forward to their post-sports career. When Strum transitioned into heavy civil construction, the idea of creating something similar, but for the less fortunate in her community, seemed like a no-brainer.



“Welding has low barriers to get in, doesn’t cost a lot, and you’re not repaying Sallie Mae,” Strum explained. “It’s a skill set that you can always use and it’s in demand.” With JARC, she saw a program that was already doing what she envisioned setting up, which allowed Strum Contracting to be at the forefront of change in these underserved communities. Strum knew her company was going to grow in the future, and needed a program like JARC to provide the talent pool necessary to sustain that growth.

Strum is currently serving as a JARC Board Member, and has since become the President of their Industry Advisory Council, along with a representative from Earlbeck Gases & Technologies.

Although Strum’s father started the company 33 years ago, it never crossed her mind that she would end up leading a heavy civil construction firm. “If you had told me eight years ago that I would be working for Strum Contracting, I would have said, there’s no way, you’re lying,” she laughed. “But I fell in love with the workforce development opportunities and the chance to provide livable wages that can change peoples’ lives.” She said learning the business and construction side of the company was easy. Strum always had an awareness of what her father did for a living, but was not aware of the legacy her father had growing up.

“I remember he used to get up at three, four in the morning, go to work and come home late. I knew that he worked on bridges and pipelines, but back then I really didn’t understand how impactful that work was,” explained Strum. “I didn’t know he’s actually a legend in this industry until I started working in it.”

Now, Strum and her sister Kerra, a Senior Project Manager at Strum Contracting, are continuing their father’s legacy, while playing a pivotal role in Baltimore’s economic development.

ABOUT THE ORGANIZERS



The Urban Manufacturing Alliance (UMA) advances place-based strategies

that create more equitable communities by building community wealth through employment, ownership, and entrepreneurship through manufacturing. We connect and convene hundreds of partners across more than 200 cities, helping them learn from one another, and act as a collaborative ecosystem builder that supports local manufacturing communities and leads a national movement. UMA then partners with the practitioners in those ecosystems to create local, regional, and national research. By documenting the voices, trends, and data emerging from manufacturing communities, we provide practitioners, policymakers, and leaders with the references they need to develop new, equitable models of economic development. From that research, we tell stories, taking the trends we observe and crafting them into rich narratives that capture how our members spark change.



The Century Foundation (TCF) is a progressive, independent think tank that conducts research, develops solutions, and drives policy change

to make people's lives better. We pursue economic, racial, and gender equity in education, health care, and work. In this pivotal moment in America, we stand with a strong and firm commitment to developing policy solutions that will help this country truly realize racial justice. Founded in 1919 by the progressive business leader Edward Filene, TCF is one of the oldest public policy research institutes in the country. TCF pursues its mission by conducting timely, nonpartisan research and policy analysis that informs citizens, guides policymakers, and reshapes what government does for the better. We are distinguished by our commitment to a thoughtful and targeted strategy to bring our work to those who can contribute to making practical affirmative change. Our experts come from academia, journalism, and public service—all with a shared commitment to advancing progressive ideas that benefit the public good.

ACKNOWLEDGEMENTS

Industry & Inclusion: Manufacturing workforce strategies building an inclusive future and the Technical Descriptions were authored by Andrew Dahlgren, UMA's Research and Content Partner. Phil Roberts, UMA Storyteller, authored the Personal Profiles. This report would not have been possible without the participation of our Industry & Inclusion Cohort: Manufacturing Renaissance, Chicago, IL; Manufacturing x Digital, Chicago, IL; Menomonee Valley Partners, Milwaukee, WI; Manufacturing Advocacy and Growth Network, Cleveland, OH; Northland Workforce Training Center, Buffalo, NY; Lightweight Innovations For Tomorrow, Detroit, MI; Jane Addams Resource Corporation, Chicago, IL and Baltimore, MD; and Wisconsin Regional

Training Partnership | Building Industry Group & Skilled Trades Employment Program, Milwaukee, WI. The Urban Manufacturing Alliance team, Katy Stanton, Lee Wellington, and Eva Pinkley, and The Century Foundation team, Andy Stettner and Amanda Novello, provided guidance throughout the development of the thought-piece. A special thanks to Dr. Ron Williams, this project's Academic Advisor and UMA's Board President-Elect, and Elmer Moore, Jr., who facilitated many virtual sessions, bringing the cohort close together even in this distant time. We also want to thank our funding partner, the Lumina Foundation, for their support. It is this collective's forward-looking strategies and ingenuity that the Industry & Inclusion 4.0 Project was fully realized.

APPENDICES

For further learning, please consider:

Industry & Inclusion Opening Commentary

- ↳ [Racial Equity and Advancing the Future of Manufacturing](#)

Industry & Inclusion Project Webinar Takeaways & Event Recordings:

- ↳ [Pursuing Equity, Inclusion, and Industrial Rebirth in the Age of Covid 19](#)
- ↳ [Advancing Equity and Inclusion in Manufacturing Credentialing and Technology](#)
- ↳ [Creating the Future Manufacturing Workforce by Enhancing Diversity and Addressing the Skills Shortage](#)
- ↳ [Partnership and Relationship Innovation To Build Race-Conscious Advanced Manufacturing Training Programs](#)

